

REARING *CYDIA COROLLANA* (Hb.) (LEP.: TORTRICIDAE), *BILLAEA IRRORATA* (Mg.) (DIP.: TACHINIDAE) AND OTHER INSECTS FROM GALLS OF *SAPERDA POPULNEA* (L.) (COL.: CERAMBYCIDAE)

P. J. JEWESS

Boyces Cottage, Newington, Sittingbourne, Kent ME9 7JF.

THE ONLY TWO confirmed British records for *Cydia corollana* (Hb.) are from Whittlesey Mere, Huntingdonshire captured by P. Bouchard in July ca. 1850 and the specimen which I had the good fortune to capture at mv light on 26 May 1982 in Burnt Oak Wood, Hamstreet, Kent (Jewess & Tuck, 1987). As far as I am aware, in spite of a number of entomologists searching for this species in the intervening period no further specimens have been recorded. The queries remaining to be answered concerning the status of this species in Britain are confirmation that the species is breeding in this country and its emergence time (May or July). In an attempt to resolve these questions, I have endeavoured to rear this species from its reported pabulum, the galls which the cerambycid beetle *Saperda populnea* (Linnaeus) makes in the stems of Aspen *Populus tremula*.

I collected *Saperda* galls from Burnt Oak Wood in early March 1996 and 1997. These were found on both old trees and 4 - 5 year old saplings and consisted of galls from which the beetle had obviously emerged and ones which were hopefully still active. The galls were reasonably easy to find and were mostly located on 5 to 10mm diameter stems. They were cut and trimmed to about 15cm. in length and placed vertically in a layer of damp potting compost in six inch plastic pots covered with a piece of nylon mesh. The pots were placed in a sheltered position in the garden and brought indoors on the 18 April (both years). I collected 30 galls in 1996 and 59 in 1997. Neither *C. corollana* nor *Saperda populnea* was reared during 1996, however, there was evidence that the pot had become overheated on one occasion. A number of tachinid flies did emerge during the middle of May and in July a single specimen of *Anacamptis populella* (Clerk) (Gelechiidae) emerged. This latter species had presumably developed from the larva which spun the aspen shoots sprouting from the potted stems. It is therefore probable that the eggs of this species are laid on the stems of the food plant and hatch as the tree comes into leaf. During the winter I dissected out all of the galls; this established a number of things. First, I was not as good at spotting galls as I thought I was, since about 30% were simple thickenings of the aspen stems totally unconnected with any insect activity. Secondly, I found three dead lepidopteran pupae and two pupal exuviae within the larval beetle burrowings inside the genuine *Saperda* galls. However, I could not establish whether these were old galls or galls which had been tenanted during the current year. The results from the galls collected during 1997 were better, probably due to the pots not becoming subjected to extremes of heat. Again, from 12 - 15 March three specimens of tachinid parasitoids emerged. I identified these as *Billaea irrorata* (Mg.) by using the key in Belshaw (1993). This species has been recorded previously in Britain as a parasitoid of *Saperda populnea* and probably less reliably from larvae of *Synathedon flaviventris* (Stdgr.) (Sesiidae), presumably on willow. On 21 May a male specimen



Plate 1. Pupal exuviae of *Cydia corollana* (Hb.) protruding from a gall made by the cerambycid beetle *Saperda populnea* (L.) in an aspen *Populus tremula* stem.

of *Cydia corollana* emerged. This individual left its pupal exuviae protruding from a hole in the gall from which frass also appeared to exude (Plate 1). I had not noticed the frass at the time I collected the galls but I could well have overlooked it amongst the number of stems which I had obtained. Again, as in 1996, larvae of *Anacampsis populella* spun up the young shoots which sprouted from the aspen and duly emerged as adults during July. Three specimens of *S. populnea* emerged in June and early July. Upon dissecting out the galls during October I found my identification of galls was improving, since of the 59 stem thickenings examined, all but eight were *Saperda* galls. I found in the larval borings three dead larvae and one dead pupa of *S. populnea*, four empty tachinid puparia and two empty puparia of what appeared to be a smaller

dipteran species. Also found was one empty pupal case identical to those discovered in the previous year and it is considered likely although not proven that these pupal cases are those of *Cydia corollana*.

In summary, it is clear that *Cydia corollana* exists at very low population density and that the assertion by lepidopterists that it has not been located at localities where *Saperda* galls are common is no proof that the insect is not present. It would seem most probable from the above limited information that the emergence period of the adult is towards the end of May and not July as suggested by the 19th century record.

References

- Belshaw, R. 1993. Tachinid Flies. Diptera: Tachinidae. *Handbooks for the Identification of British Insects* **10, 4a** (i). Royal Entomological Society of London.
- Jewess, P.J. and Tuck, K.R., 1988. *Br. J. Ent. Nat. Hist.*, **1**: 9 Occurrence of *Cydia corollana* (Hübner) (Lepidoptera: Tortricidae) in Kent.